

IN THE CLAIMS

Please amend the claims as follows.

1. (Previously amended) A polymer of Claim 7, wherein said polymer has an average cationic charge density of 2.77 or less units per 100 daltons molecular weight at a pH of from about 4 to about 12.

2. (Previously amended) A polymer according to Claim 1, wherein said polymer is a suds/foam stabilizer having an average cationic charge density from about 0.01 to about 2.75 units per 100 daltons molecular weight at a pH of from about 4 to about 12.

3. (Previously amended) A polymer according to Claim 1, wherein said polymer has a hydroxyl group density of from about 0.5 or less as measured by the Hydroxyl Group Density Equation.

4. (Previously amended) A polymer according to Claim 1, wherein said polymer comprises:

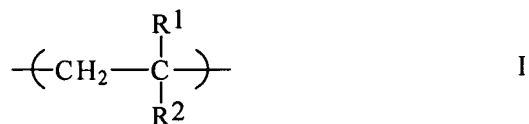
- iv) units capable of having an anionic charge at a pH of from about 4 to about 12;
- v) units capable of having an anionic charge and a cationic charge at a pH of from about 4 to about 12;
- vi) units having no charge at a pH of from about 4 to about 12; and
- vii) mixtures of units (iv), (v), (vi), and (vii).

5. (Original) A polymer according to Claim 2, wherein said polymer has an average molecular weight of from about 1,000 to about 2,000,000 daltons.

6. (Original) A polymer according to Claim 1, wherein said polymer has an average cationic charge density of about 0.75 to about 2.25 units per 100 daltons molecular weight at a pH of about 4 to about 12 and a molecular weight of about 10,000 to about 100,000 daltons.

7. (Currently amended) A polymer consisting essentially of:

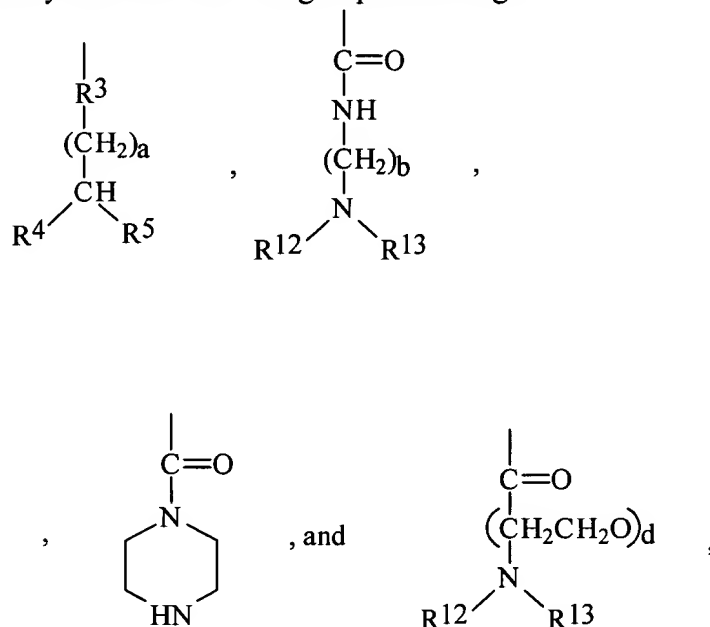
A. at least one cationic monomeric unit A, capable of having a cationic charge at a pH in the range of from about 4 to about 12, having a Formula I:



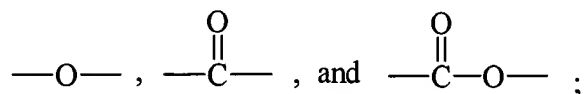
wherein

R¹ is H or an alkyl having 1 to 10 carbon atoms,

R² is a moiety selected from the group consisting of

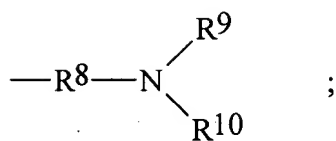


wherein R³ is selected from the group consisting of



a is an integer from 0 to 16; b is an integer from 2 to 10; c is an integer from 2 to 10; d is an integer from 1 to 100;

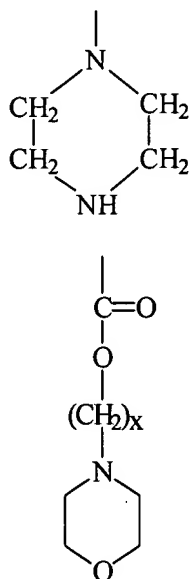
R⁴ and R⁵ are independently selected from the group consisting of -H, and



R⁸ is independently selected from the group consisting of a bond and an alkylene having 1 to 18 carbon atoms;

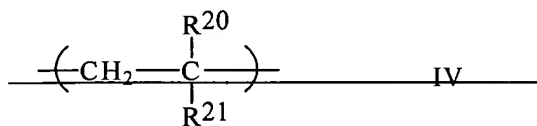
R⁹ and R¹⁰ are independently selected from the group consisting of -H, alkyl having 1 to 10 carbon atoms;

R¹² and R¹³ are independently selected from the group consisting of H and alkyl having from 1 to 10 carbon atoms;



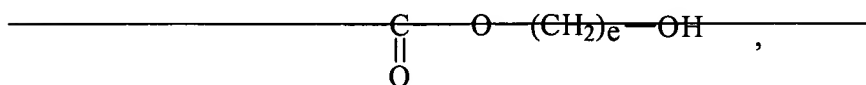
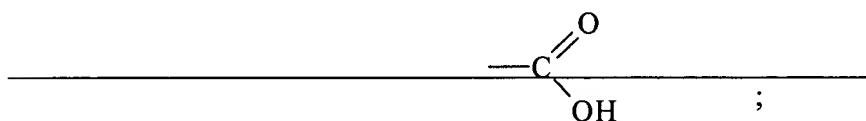
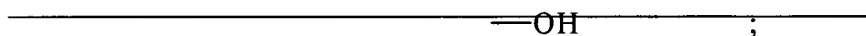
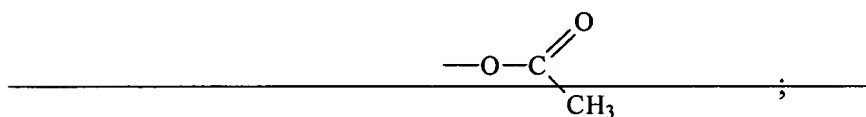
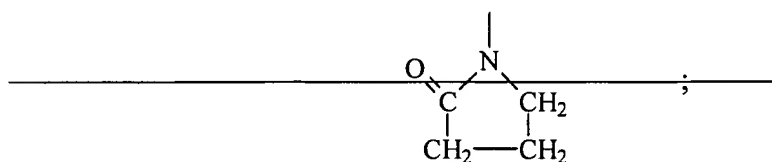
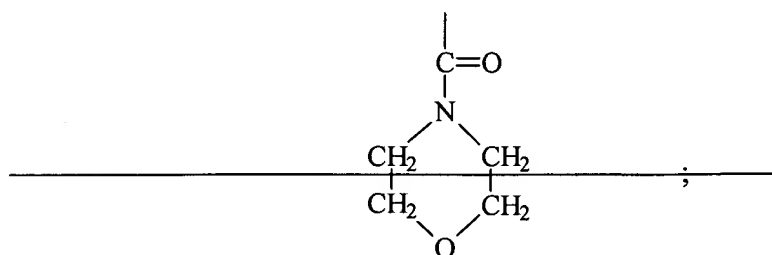
wherein x is an integer from 2 to 10;

B. at least one monomeric unit B selected from the group consisting of:
a monomeric unit of Formula IV

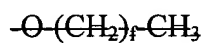


wherein R^{20} is selected from the group consisting of H and CH_3 ;

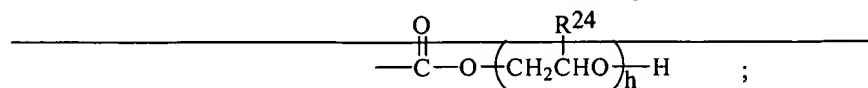
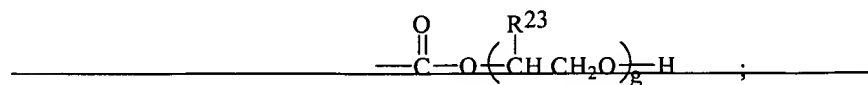
R^{21} is selected from the group consisting of:



wherein e is an integer from 3 to 25;



wherein f is an integer from 0 to 25;

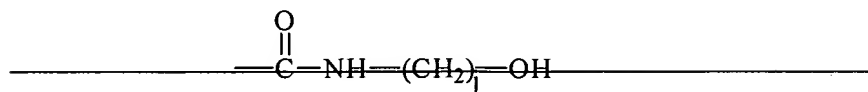


wherein g is an integer from 1 to 100;

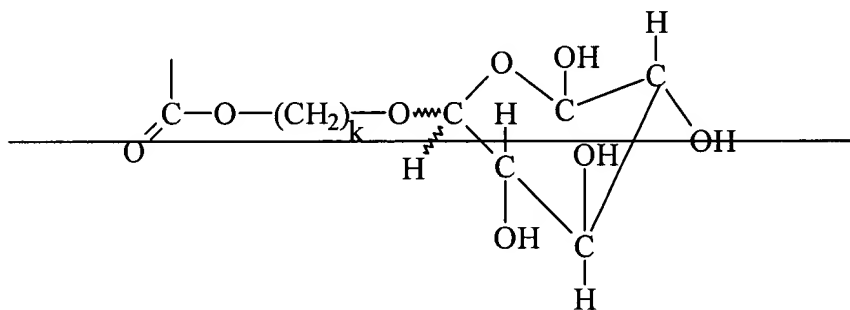
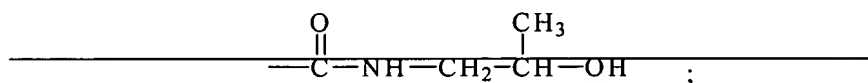
h is an integer from 1 to 100;

R^{23} is H, CH_3 or C_2H_5 ;

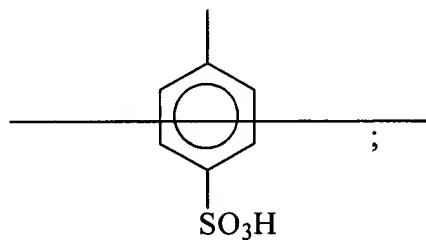
R^{24} is CH_3 or C_2H_5 ;



wherein j is an integer from 1 to 25;

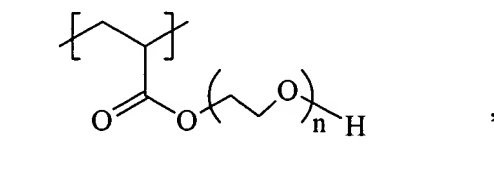
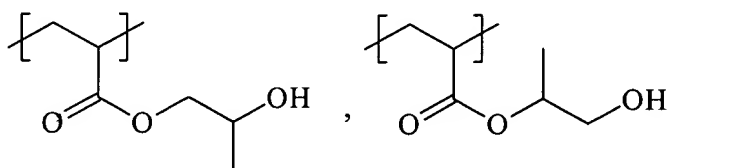
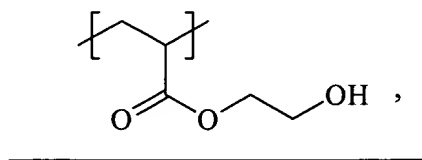
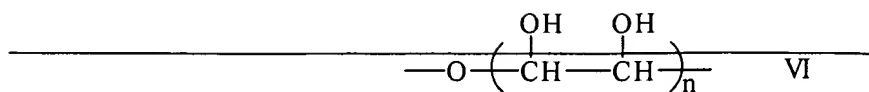


wherein k is an integer from 1 to 25;



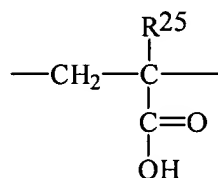
$\text{---NH}(\text{CH}_2)_m\text{NH}_2\text{HCl}$, wherein m is an integer from 1 to 25; and

a polyhydroxy monomeric unit of Formula VI:

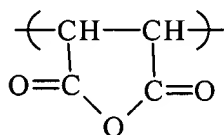


wherein n is an integer from 1 to 50; and

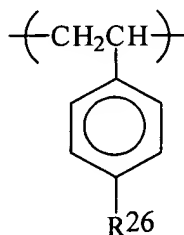
C. optionally at least one monomeric unit C selected from the group consisting of:



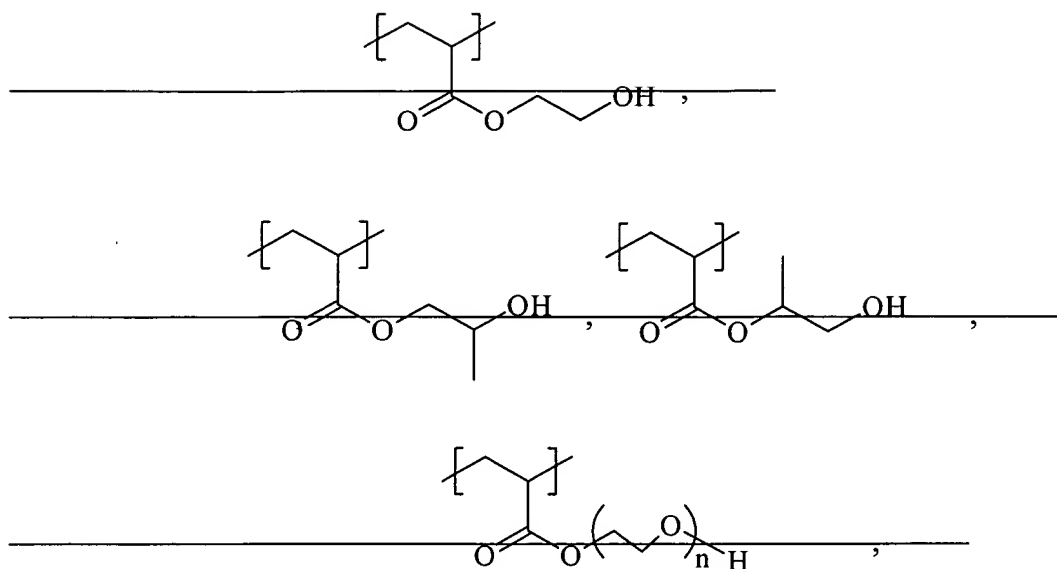
wherein R²⁵ is -H or -CH₃,



and



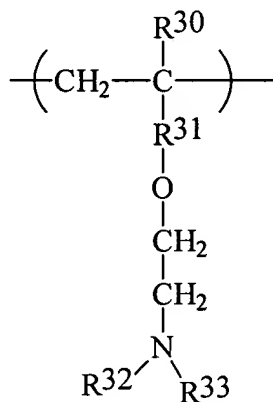
wherein R²⁶ is -H or CH₃, ~~wherein said at least one monomeric unit B is selected from the group consisting of: _____~~



wherein n is an integer from 1 to 50 .

8. (Original) The polymer of Claim 7, wherein said polymer comprises at least one said monomeric unit A, at least one said monomeric unit B and at least one said monomeric unit C.

9. (Original) The polymer of Claim 7, wherein said at least one monomeric unit A is selected from the group consisting of:

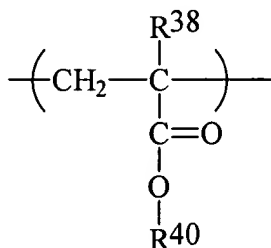


wherein R^{30} is H or $-CH_3$,

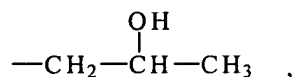
wherein R³¹ is a bond or $\text{—}\overset{\text{O}}{\parallel}\text{C—}$, and
 R³² and R³³ are —CH_3 or $\text{—C}_2\text{H}_5$.

10. (Currently amended) The polymer of Claim 9, wherein said polymer is a terpolymer,

said at least one monomeric unit B is selected from the group consisting of:



wherein R³⁸ is selected from the group consisting of H and CH_3 - and
 R⁴⁰ is selected from the group consisting of $\text{—CH}_2\text{CH}_2\text{—OH}$ and

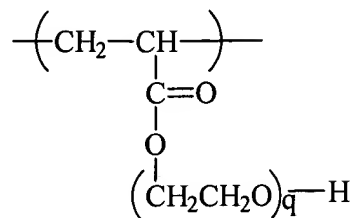


and isomers thereof $\text{—}\overset{\text{CH}_3}{\underset{|}{\text{CH}}}\text{—CH}_2\text{—OH}$,

said terpolymer comprising said at least one monomeric unit C,

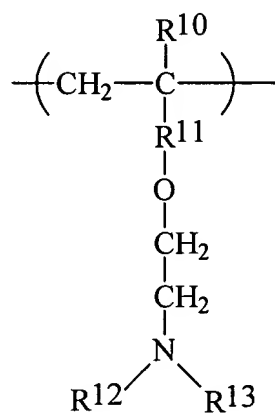
wherein the molar ratio of said monomeric unit A : monomeric unit B : monomeric unit C
 is 1 to 9 : 1 to 9 : 1 to 6 respectively.

11. (Original) The polymer of Claim 7, wherein the at least one monomeric unit B has the formula:



wherein q ranges from 1 to 12.

12. (Original) The polymer of Claim 11, wherein the polymer is a terpolymer, said at least one monomeric unit A is selected from the group consisting of:

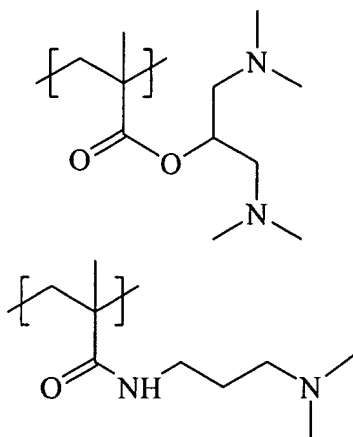


wherein R¹⁰ is H or CH₃,

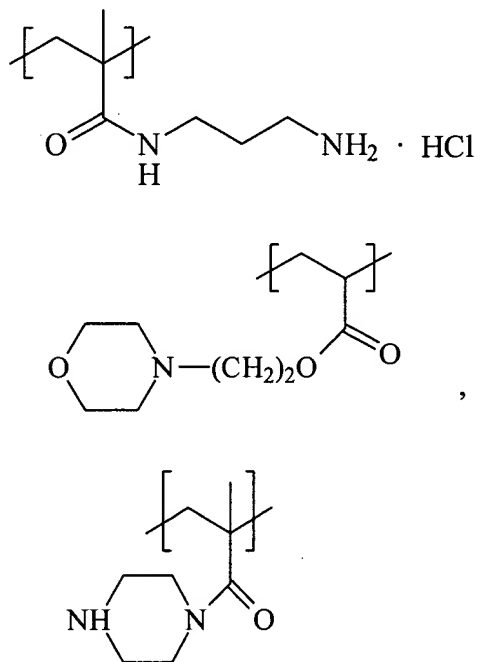
R¹¹ is a bond or $\text{---}\overset{\text{O}}{\parallel}{\text{C}}\text{---}$, and R¹² and R¹³ are ---CH_3 or $\text{---C}_2\text{H}_5$, and said monomer comprises said at least one monomeric unit C.

13. (Original) The polymer of Claim 12, wherein the molar ratio of monomeric unit A : monomeric unit B : monomeric unit C ranges from 1 to 9 : 1 to 9 : 1 to 3 respectively.

14. (Withdrawn) The polymer of Claim 7, wherein said at least one monomeric unit A has a formula selected from the group consisting of:



15. (Withdrawn) The polymer of Claim 7, wherein said at least one monomeric unit A has a formula selected from the group consisting of:



16. (Cancelled)

17. (Original) The polymer of Claim 7, selected from the group consisting of:

poly(HEA-co-DMAM-co-AA) terpolymer,
poly(HPA-co-DMAM-co-AA) terpolymer, and
poly(PEG-acrylate-co-DMAM-co-AA) terpolymer.

18. (Currently Amended) The polymer of Claim 7, ~~is selected from the group consisting of:~~ poly(HEA-co-DMAM) copolymer, ~~poly(DMAM-co-butylvinylether) copolymer and poly(2-diethylaminoethylvinyl ether-co-ethyleneglycol monovinyl ether).~~

19. (Withdrawn) A method for cleaning hair or skin comprising applying an effective amount of a cleaning composition comprising the polymer of Claim 1 and at least one deterative surfactant to hair or skin in need of cleaning, provided that a 10% aqueous solution of said composition has a pH from about 4 to about 9.

20. (Withdrawn) The method of Claim 19, wherein said composition further comprises at least one member of the group consisting of a pearlizing agent, a silicone hair conditioning agent, and an antidandruff ingredient.

21. (Withdrawn) The method of Claim 20, wherein said composition comprises:

- a) said pearlizing agent
- b) a nonionic surfactant
- c) an amphoteric surfactant
- d) a glycol emulsifier
- e) water.

22. (Withdrawn) The method of Claim 20, wherein said composition comprises at least one amphoteric surfactant and said amphoteric surfactant comprises at least one member of the group consisting of:

the alkali salts of alkyl amphodipropionates, alkyl amphodiacetates, alkyl amphoglycinates, alkyl amphopropyl sulfonates and alkyl amphopropionates wherein alkyl represents an alkyl group having 6 to 20 carbon atoms.

23. (Withdrawn) The method of Claim 22, wherein in said at least one amphoteric surfactant the alkyl group is derived from coconut oil or is a lauryl group.

24. (Withdrawn) A method for cleaning hair or skin comprising applying an effective amount of a cleaning composition comprising the polymer of Claim 5 and at least one surfactant to hair or skin in need of cleaning.

25. (Withdrawn) A composition for cleaning hair or skin comprising:
the polymer of Claim 1,
at least one deterative surfactant, and at least one member of the group consisting of a pearling agent, a silicone hair conditioning agent, and an antidandruff ingredient, provided that a 10% aqueous solution of said composition has a pH from about 4 to about 12.

26. (Withdrawn) A composition for cleaning hair or skin comprising:
the polymer of Claim 7,
at least one surfactant, and at least one member of the group consisting of a pearling agent, a silicone hair conditioning agent, and an antidandruff ingredient.

27. (Withdrawn) The composition of Claim 26, wherein said silicone compound is an alpha, omega-trimethylsilyl-polydimethylsiloxane having a viscosity at 25°C of at least 25 centistokes and less than 60,000 centistokes.

28. (Withdrawn) A method for washing a fabric article in a washing medium comprising:
applying an effective amount of a laundry cleaning composition comprising the polymer of Claim 1 and at least one detergent surfactant to a fabric article in need of cleaning.

29. (Withdrawn) The method of Claim 28, wherein said composition washes a colored fabric article.

30. (Withdrawn) The method of Claim 28, wherein said composition comprises at least one member of the group consisting of an aminosilicone, a Gemini surfactant, a detergency builder, a bleach, an activator for percompound bleach, a soil suspending agent, a soil antiredeposition agent, a foam suppressant agent and a fabric softener.

31. (Withdrawn) The method of Claim 28, wherein said composition comprises a foam suppressant agent.

32. (Withdrawn) A method for washing a fabric article in a washing medium comprising:

applying an effective amount of a laundry cleaning composition the polymer of Claim 7 and at least one detergent surfactant to a fabric article in need of cleaning.

33. (Withdrawn) A detergent composition for washing a fabric article comprising:
the polymer of Claim 1;
at least one detergent surfactant; and
at least one member of the group consisting of an aminosilicone, a Gemini surfactant, a detergency builder, a bleach, an activator for percompound bleach, a soil suspending agent, a soil antiredeposition agent, a foam suppressant agent and a fabric softener;
provided that a 10% aqueous solution of said detergent composition has a pH of from about 4 to about 12.

34. (Withdrawn) A method for extinguishing fire comprising applying a foam to a fire, wherein the foam comprises a foaming agent and a polymer of Claim 1.

35. (Withdrawn) A method for treating agricultural substrate selected from the group

consisting of plants, soil or seed comprising,

applying to the substrate a foam comprising at least one agricultural chemical selected from the group consisting of a herbicide, a pesticide, and a fungicide, a foaming agent and a polymer of Claim 1.

36. (Withdrawn) A method comprising, injecting into a subterranean formation, a foam comprising a foaming agent and a polymer of Claim 1.

37. (Withdrawn) A method for shaving hair from skin comprising applying foam shaving cream to the skin, said shaving cream comprising a foaming agent and a polymer of Claim 1.

38. (Withdrawn) A method for shaving hair from skin comprising applying a shaving gel to the skin, said gel comprising a foaming agent and a polymer of Claim 1.

39. (Withdrawn) A method comprising applying a depilatory foam to skin, said foam comprising a foaming agent and a polymer of Claim 1.

40. (Withdrawn) A method of cleaning hard bathroom surfaces comprising applying to said surfaces a foam cleaner comprising a foaming agent and a polymer of Claim 1.

41. (Withdrawn) A process for making paper comprising aiding retention of titanium dioxide on the paper during the paper making comprising treating the paper with an aqueous solution comprising titanium dioxide and a polymer of Claim 1.

42. (Cancelled)

43. (New) The polymer of Claim 7, consisting of:

- A. said at least one cationic monomeric unit A,
- B. at least one monomeric unit B; and

C. optionally said at least one monomeric unit C.